REMARKS

Claims 1-3, 6-11, 13-16, and 18-20 were pending in the application. The non-final office action dated February 15, 2008 rejects all pending claims.

This paper amends claims 1, 6, 10, 11, 14, and 15, and adds claims 21-23. Applicant is not conceding that the subject matter encompassed by claims 1, 6, 10, 11, 14, and 15 prior to this Amendment is not patentable over the art cited by the Examiner. Claims 1, 6, 10, 11, 14, and 15 were amended in this Amendment to facilitate expeditious prosecution of the application. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by claims 1, 6, 10, 11, 14, and 15 as presented prior to this Amendment and additional claims in one or more continuing applications.

Claims 1-3, 6-11, 13-16, and 18-23 are now pending in the application.

Applicant's undersigned representative thanks Examiner Faroul for her time and courtesy during the telephonic interview of May 5, 2008. During the interview, applicant's representative explained the general operation of the invention. In addition, they discussed the cited references, Iacovino and Chi, in view of the applicant's claims. No specific agreement was reached.

Claim Rejections under 35 U.S.C. § 103

The Office Action rejects claims 1-3, 6-11, 13-16, and 18-20 under 35 U.S.C. § 103(a) as being unpatentable over Iacovino (U.S. Publication No. 2004/0085954) in view of Chi (U.S. Patent No. 6,654,341). Applicant respectfully traverses the rejection to the extent it is maintained against the claims as now amended.

As now set forth in claim 1, the applicant's invention features a method of communicating protection-signaling information between cards in a network element. An incoming signal is received at a first card of a network element from over a network. Protection-signaling information obtained from the incoming signal is incorporated into a first out-of-band signal. The first out-of-band signal with the protection-signaling information incorporated therein is transmitted from the first card to a second card in the network element over a link between the cards. The second card obtains the protection-signaling information from the first out-of-band signal and incorporates the protection-signaling information into a second out-of-band signal. This second out-of-band signal is simultaneously transmitted from the second card to the first card and to one or more other cards in the network element.

Before discussing the cited references, applicant wishes to underscore certain features of the applicant's invention not present in the combination of Iacovino and Chi: (1) out-of-band signals are bi-directionally exchanged between cards in the network element: for example, from the first card to the second card and from the second card to the first card; and (2) these cards are in the network element.

Iacovino teaches out-of-band signaling from a line module (520) to a switch module (550). The line module sends out-of-band signals to the switch module over a dedicated proprietary channel (770) in parallel with the traffic flow. The traffic flow comprises STS-48 signals, which is the electrical equivalent to OC-48 optical signals. In contrast to the applicant's invention, the flow of out-of-band signaling in Iacovino is unidirectional: from the line module to the switch module. (Please see FIG. 6 and FIG. 7, which both show a unidirectional arrow from the line modules to the switch module to illustrate the out-of-band communication link). In response to the out-of-band signal from a line module, Iacovino's switch module selects the best STS-1 from among the protect/working pair and sends an STS-48 sized payload back to the line module. (paragraph [0052]]. However, when the switch module sends this STS payload back to the line module, the switch module does not use out-of-band signaling - by implication, transmission of the STS traffic stream from the switch module to the line module occurs in-band (paragraph [0049]). Therefore, Iacovino does not teach or suggest the bi-directional exchange of out-of-band signals of the applicant's invention; more specifically, "simultaneously transmitting, from the second card to the first card and to one or more other cards in the network element, the second out-of-band signal having the protection-signaling information obtained from the first out-of-band signal", as set forth in the applicant's claimed invention.

The other cited reference, Chi, discloses a method for distributing identification and availability information about a protection line among switches in a SONET ring network. To supply the subject matter lacking in Iacovino, the Office Action refers to FIG. 12 of Chi and states:

> Chi ... teaches transmitting a second out-of-band signal containing the information received by the second card to a plurality of cards ....

Applicant respectfully disagrees with this characterization: Chi does not use *out-of-band* signaling to distribute the protection line information. Rather, Chi teaches distributing the protection line information with the SONET traffic stream by incorporating the information in the K-byte of the SONET overhead. (Please see Chi's Abstract.) Because each STS-1 segment includes payload (i.e., data traffic) and overhead, and the overhead includes the K-byte (col. 2, lines 10-12), Chi's signaling is thus "in-band", not "out-of-band". Thus, Chi cannot teach or suggest simultaneously transmitting an out-of-band signal to a plurality of cards, as set forth in the applicant's claimed invention.

Moreover, Chi also does not teach or suggest distributing information between cards of a (i.e., one) network element. Rather, Chi's distribution occurs over a ring network among switches (i.e., multiple network elements). Applicant's claims are herein amended to make this distinction more readily evident. Hence, any combination of Iacovino and Chi still lacks the bi-directional exchanging of out-of-band signals of the applicant's invention; namely, "simultaneously transmitting, from the second card to the first card and to one or more other cards in the network element, the second out-of-band signal having the protection-signaling information obtained from the first out-of-band signal", as set forth in the applicant's claimed invention. Therefore, applicant respectfully requests that the rejection be withdrawn.

Each of the other pending independent claims recites language similar to that of independent claim 1, and is therefore patentable over the cited references for at least those reasons provided in connection with claim 1. For instance, the claimed method of independent claim 11, as amended, includes a bi-directional exchange of out-of-band signals: namely, transmitting protection-signaling information from tributary cards in the network element to a cross-connect card in the network element using out-of-band signals and simultaneously transmitting an out-of-band signal from the cross-connect card to each tributary card in the network element. In addition, the network element of independent claim 14, as amended, also includes a bi-directional exchange of out-of-band signals: a second card in the network element receives a first out-of-band signal from a first card in the network element and transmits a second out-of-band signal to the first card and to other cards in the network element.

Each of the dependent claims depends directly or indirectly from one of the patentable independent claims and incorporates all of its respective limitations and, therefore, is patentable for at least this reason.

New claims 21-23

Claims 21-23 are dependent claims, which depend from allowable independent claims, and therefore are allowable as written for at least this reason. Moreover, each dependent claim also recites an additional limitation, which, in combination with the elements and limitations of its independent claim, may further distinguish that dependent claim from the cited reference.

CONCLUSION

Applicant submits that this paper provides a response for all pending claims. Any absence of a reply to a specific rejection, issue, or comment, or to the taking of "official notice" or reliance on "common sense", however, does not signify agreement with or concession of that rejection, issue, comment, taking of "official notice", or reliance on "common sense". In addition, because the arguments made above are not exhaustive, there may be reasons for patentability of any or all pending claims that have not been expressed.

In view of the amendments and arguments made herein, applicant submits that the application is in condition for allowance and requests early favorable action by the Examiner.

If the Examiner believes that a telephone conversation with the applicant's representative would expedite allowance of this application, the Examiner is cordially invited to call the undersigned at (508) 303-0932.

Respectfully submitted,

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